

PATENT

**METHOD INTENDED FOR GRADUAL DEFORMATION OF SEQUENTIAL
SIMULATIONS OF A HETEROGENEOUS MEDIUM SUCH AS AN
UNDERGROUND ZONE**

ABSTRACT

- Method intended for gradual deformation of representations or realizations, generated by sequential simulation, of a not necessarily Gaussian stochastic model of a physical quantity z in a meshed heterogeneous medium, in order to adjust them to a set of data relative to the structure or the state of the medium which are collected by previous measurements and observations.
- It essentially comprises applying a stochastic model gradual deformation algorithm to a Gaussian vector with N mutually independent variables which is connected to a uniform vector with N mutually independent uniform variables by the Gaussian distribution function so as to define realizations of the uniform vector, and using these realizations to generate representations of this physical quantity z that are adjusted to the data.
- Applications for example for visualizing the statistical configuration of a quantity : permeability of an underground reservoir, atmospheric pollution, etc.